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CO7D 213/78, 213/81, 213/83
New 2-phenoxy-pyridine-6-(thio)carboxamide derivs. - useful as herbicides, against grasses and broadleaf weeds with selectivity to small grain cereals (Eng)
CY2-084848 R(AT BE CH DE DK ES FR GB GR IT-LILU NL SE)
Addnl. Dato: FOSTER C J, GILKERSON T, STOCKER R, GILMORE I J
91.11.26 91EP-203072
2-Phenoxy-6-pyridine-(thio)carboxnæide derivs. of Tormula

(1) are new:  $(Y)_{m}$   $(X)_{n}$   $(Y)_{m}$   $CZ-NR_{1}R_{2}$   $(Y)_{m}$ 

X = H; halo; alkyl or alkoxy (opt. substd. by halo, CN,
OH and/or alkoxy), CN, NO2, alkenyloxy, alkynyloxy,
alkylthio, haloalkylthio, alkenylthio or alkynylthio;
m = 0-3;

Y = halo, alkyl or haloalkyl;

C(7-D4, 12-P6)

Z = 0 or S;

R<sub>1</sub>, R<sub>2</sub> = H, alkyl opt.substd. by 1 or more of halo, Oii.
CN, alkoxy, alkylihio, alkoxycarbonyl or mono-,or
di-alkylamino, alkenyl, alkynyl, cycloalkyl, or opt.
substd. cycloalkylalkyl, or OH, alkoxy, alkenyloxy,
alkynyloxy, alkoxycarbonyl, Nii<sub>2</sub>, mono- or dialkylamino, alkoxycarbonylamino, arylamino opi.
substd. by a halo, or dialkylarbamoyl;

or R<sub>1</sub> + R<sub>2</sub> = alkylene opt. interrupted by O. S or NR:

R = H or alkyl.

MORE SPECIFICALLY

n = 1-2 (esp.1);

X = H, F, Cl, Br, NO<sub>2</sub>, Et, OMe or CF<sub>3</sub> (esp. 3-CF<sub>3</sub>, 3-OMe or 3-Cl);

 $R_1 = H$ , 1-4C alkyl or 2-4C alkenyl (esp. H):

R<sub>2</sub> = H, 1-8C alkyl, 1-4C alkyl substd. by F,OH, CN,OBle,
OEt, COOBle, COOEt or mono- or di-(1-2C alkyl)amino, 3-5C cycloalkyl, 2-4C alkenyl, 2-4C alkynyl,
1-4C alkoxy, 1-4C alkylamino, 2-4C alkenyloxy,
COOBle, COOEt, 3-7C alkoxycorbonylamino, di(1-2C
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alkyl)carbamoyl, arylamino (opt.substd. by halo) or halo-(3-6C)cycloalkyl-(1-4C)alkyl (esp. Et. Pr. cyclopropyl or cyclobutyl);

or  $R_1 + R_2 = (CH_2)_4$ ,  $(CH_2)_2O(CH_2)_2$  or  $(CH_2)_2NR(CH_2)_2$ ; R = Mc or Et.

## USE/ADVANTAGE

(i) are herbicides active against a wide spectrum of grasses and esp, broadleaved weeds (e.g. blackgrass, wild ont, giant foxtail, green foxtail, morning glory, cleavers, black nightshade, speedwell and chickweed), when applied pre- or post-emergence. They exhibit selectivity to small grain cereals (e.g. maize, wheat, barley and rice) and to broad-leaf crops (e.g. soya, sunflower and cotton).

Application rate is 0.01-10 (pref. 0.05-4) kg/ha.

PREPARATION

(X)<sub>n</sub>

(Y)<sub>m</sub>

COL

P<sub>2</sub>S<sub>5</sub>

(I; 2 = S)

L = leaving gp.

(b)  $(Y)_m$   $(X)_n$ N=CONR<sub>1</sub>R<sub>2</sub>

(X)<sub>n</sub>

(X)<sub>n</sub>

(I; Z = O)

al = alkali metal.

## **EXAMPLE**

A mixt. of 6-(3-trifluoromethylphenoxy)pleolinic acid (1.5g) and SOCi, (20 ml) was refluxed for 1 hr. Excess SOCi, was evapd. in vacuo and CH<sub>2</sub>Ci, (20 ml) added. A soin. of n-propylamine (0.6g) and Et<sub>3</sub>N (1g) in CH<sub>2</sub>Ci, (20 ml) was added dropwise at ambient temp.

After work-up, the residue was purified by silien gel chromatography, eluting with 5% (v/v) ether/CH<sub>2</sub>Cl<sub>2</sub>, to give 1.5g. N-n-propyl-2-(3-trifluoromethylphenoxy)-6-pyridinecarboxamide (Ia) as on oil.

(la) was applied (pre-emergence) at (a) 5 and (b) 1 kg/ha. 12 Days after applien, herbicidal effect (0 = no effect; 9 = complete kill) was assessed visually.

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(a): barnyard grass (BG), oats (O), mustard (b), sugarbeet (SB) 9; maize (Nz), rice (R), linseed (L) 8; soyobean (S) 7.

(b): BG, N, SB 9; O 8; S 7; Mx, R, L 6. (38pp985PHPDwgNoU/O).

SR:1.Jnl.Ref EP176 EP53011 JP63017811 US4251263 US4270946

Results were:

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